

## REMARKS

This Amendment is submitted in reply to the non-final Office Action mailed on June 25, 2008. No fees are due with this Amendment. The Director is authorized to charge any fees that may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112701-600 on the account statement.

Claims 1-20 are pending in this application. In the Office Action, Claims 16-18 are rejected under 35 U.S.C. §112, first paragraph. Claims 10, 14-18 are rejected under 35 U.S.C. §112, second paragraph. Claims 14-15 are rejected under 35 U.S.C. §101. Claims 1-2, 4, 6-10, 13-15, and 19-20 are rejected under 35 U.S.C. §102(b). Claims 3, 5, 11-12 and 16-18 are rejected under 35 U.S.C. §103(a). In response Claims 1, 3-10, 12-17 and 19-20 have been amended, and Claims 2, 10-11 and 18 have been canceled. The amendments do not add new matter. In view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, Claims 16-18 are rejected under 35 U.S.C. §112, first paragraph as failing to comply with the enablement requirement. The Patent Office alleges that the claimed subject matter was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. See, Office Action, page 3, lines 3-7. Specifically, the Patent Office alleges that Claim 16 does not set forth processing steps to carry out the method. See, Office Action, page 3, lines 8-11.

An analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement is whether the experimentation needed to practice the invention is undue or unreasonable. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). A patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991).

Applicants have amended Claim 16 to recite, in part, a method for modifying starch in a wafer batter comprising the steps of modifying the starch without increasing batter viscosity,

wherein the modifying comprises the step of treating the batter with thermostable  $\alpha$ -amylase.

The amendment does not add new matter. The amendment is supported in the specification at, for example, page 4, line 19-page 5, line 37. As amended, Claim 16 specifically recites a processing step (*e.g.*, treating the batter with thermostable  $\alpha$ -amylase) that is used to carry out the method for modifying the starch in a wafer batter. Therefore, Applicants respectfully submit that the skilled artisan would not be subjected to undue experimentation to use the presently claimed invention. For at least the reasons set forth above, Applicants respectfully submit that Claims 16-18 fully comply with the requirements of 35 U.S.C. §112, first paragraph.

Accordingly, Applicants respectfully request that the rejection of Claims 16-18 under 35 U.S.C. §112, first paragraph, be withdrawn.

In the Office Action, Claims 10 and 14-18 are rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to Claim 10, the Patent Office alleges that it is unclear what is meant by "the alpha amylase does not pretreat the batter or the dough." See, Office Action, page 2, lines 6-8. In response, Applicants have deleted Claim 10, thereby rendering the rejection moot. Applicants also note that Claim 14 was amended to remove the same language.

Regarding Claims 14-15, the Patent Office alleges that it is unclear what method/process Applicant is intending to encompass since Claim 14 allegedly does not set forth any steps for the method/process. See, Office Action, page 2, lines 15-19. In response, Applicants have amended Claim 14 to recite, in part, the use of thermostable  $\alpha$ -amylase to manipulate textural attributes of wafers comprising the step of adding  $\alpha$ -amylase to a wafer batter. The amendment does not add new matter. The amendment is supported in the specification at, for example, page 4, line 19-page 5, line 37. As amended, Claim 14 specifically recites a processing step (*e.g.*, adding thermostable  $\alpha$ -amylase to a wafer batter) that is used to carry out the use of  $\alpha$ -amylase to manipulate the textural attributes of a wafer. Therefore, Applicants respectfully submit that the skilled artisan would understand what steps are involved in order to practice the presently claimed invention.

With respect to Claim 16, the Patent Office alleges that it is unclear what the "modifying" encompasses, what the batter viscosity is not increased in comparison to, and how the starch of a finished wafer product can be modified. See, Office Action, page 2, lines 9-13. In response, and

as discussed in part above, Applicants have amended Claim 16 to recite, in part, a method for modifying starch in a wafer batter comprising the steps of modifying the starch without increasing batter viscosity, wherein the modifying comprises the step of treating the batter with thermostable  $\alpha$ -amylase. The amendment does not add new matter. The amendment is supported in the specification at, for example, page 4, line 19-page 5, line 37. As amended, Claim 16 specifically recites a processing step (*e.g.*, treating the batter with thermostable  $\alpha$ -amylase) that is used to carry out the method for modifying the starch in a wafer batter.

Further, since Claim 16 has been amended to clarify that it is the starch in the wafer batter that is modified, and not the final wafer product, Applicants respectfully submit that the skilled artisan would understand that the starch of the wafer batter is modified by treating the batter with thermostable  $\alpha$ -amylase, not the starch in the final wafer product.

Moreover, Applicants respectfully submit that the skilled artisan would understand what is meant by the phrase “modifying the starch without increasing batter viscosity” when read in view of the specification. For example, the specification states that with typical batters, “gelatinization of the flour starch in the batter tank by heat treatment and subsequent enzymatic hydrolysis is not feasible since it causes a dramatic increase in viscosity and makes the batter no longer pumpable and machinable.” See, specification, page 4, lines 25-28. As such, the skilled artisan would appreciate that the specification refers to the increase of the viscosity of the batter in relation to its previous viscosity, and not in relation to any other product’s viscosity.

Regarding Claim 17, the Patent Office alleges that “the baking plates” do not have proper antecedent basis. See, Office Action, page 2, line 14. In response, Applicants have amended Claim 17 to delete the word “the.” Accordingly, the baking plates of Claim 17 are now introduced using proper antecedent basis.

For at least the reasons set forth above, Applicants respectfully submit that Claims 10 and 14-18 fully comply with the requirements of 35 U.S.C. §112, second paragraph.

Accordingly, Applicants respectfully request that the rejection of Claims 10 and 14-18 under 35 U.S.C. §112, second paragraph, be withdrawn.

In the Office Action, Claims 14-15 are rejected under 35 U.S.C. §101 as allegedly being improper process claims under 35 U.S.C. §101. Specifically, the Patent Office alleges that the Claim 14 fails to recite any steps involved in the process. See, Office Action, page 2, line 3-page 4, line 2. In response, and as discussed above, Claim 14 has been amended to recite, in part, the

use of thermostable  $\alpha$ -amylase to manipulate textural attributes of wafers comprising the step of adding  $\alpha$ -amylase to a wafer batter. The amendment does not add new matter. The amendment is supported in the specification at, for example, page 4, line 19-page 5, line 37. As amended, independent Claim 14 has been amended to recite a process step (e.g., adding  $\alpha$ -amylase to a wafer batter) and, therefore, recites proper patentable subject matter. Based on at least these noted reasons, Applicants believe that Claims 14-15 fully comply with 35 U.S.C. §101.

Accordingly, Applicants respectfully request that the rejection of Claims 14-15 under 35 U.S.C. §101 be withdrawn.

In the Office Action, Claims 1-2, 4, 6-10, 13-15 and 19-20 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 2,615,810 to Stone ("Stone"). Applicants respectfully disagree with and traverse this rejections for at least the reasons set forth below.

Independent Claim 1 has been amended to recite, in part, a wafer comprising a thermostable  $\alpha$ -amylase. Independent Claim 9 has been amended to recite, in part, a process for making a wafer comprising the steps of making a wafer batter or a dough by mixing a thermostable  $\alpha$ -amylase and baking it on at least one hot surface. Independent Claim 14 has been amended to recite, in part, the use of thermostable  $\alpha$ -amylase to manipulate textural attributes of wafers comprising the step of adding  $\alpha$ -amylase to a wafer batter. Independent Claim 16 has been amended to recite, in part, a method for modifying starch in a wafer batter comprising the steps of modifying the starch without increasing batter viscosity, wherein the modifying comprises the step of treating the batter with thermostable  $\alpha$ -amylase. The amendments as discussed above are fully supported in the specification, for example, on page 4, line 19-page 5, line 37. As such, embodiments of the present invention are directed to flour-based food products comprising wafers formed from wafer batters including  $\alpha$ -amylase that is used to manipulate certain textural attributes of the wafers.

For example, using  $\alpha$ -amylase in wafers induce two main effects which will affect the wafer textures. First, the enzyme will induce a decrease in the starch viscosity at the baking step, leading to a modification in the expansion and the size of gas bubbles. Second, the enzyme will modify the macromolecular structure of starch leading to a modification of the physical properties in the solid cell walls of the dried wafer.

Further, Applicants have also surprisingly found that the enzymatic cleavage of starch operated by the  $\alpha$ -amylase increases the level of reducing sugars and so facilitates the browning

reactions of the wafer together with a positive impact on the flavour of the final products. Applicants have also found that there exists a relationship between the level of  $\alpha$ -amylase incorporated into the batter and the hissing time during baking (*i.e.*, the time period corresponding to the audible noise produced by gas and steam release at the beginning of the baking phase). See, specification, page 6, line 30-page 7, line 5. In contrast, Applicants respectfully submit that the cited references are deficient with respect to the present claims.

*Stone* fails to disclose or suggest a flour-based food product that is a wafer as required, in part, by independent Claims 1, 9, 14 and 16. The Patent Office even admits that *Stone* fails to disclose or suggest a wafer. See, Office Action, page 4, line 25. In contrast, *Stone* teaches the inhibition, or prevention, of the staling of bread. See, *Stone*, col. 1, lines 1-3. As recognized by the Patent Office, the flour-based food products of *Stone* include biscuits, crackers or cake. See, Office Action, page 3, line 21. For at least the reasons discussed above, Applicants respectfully submit that Claims 1-2, 4, 6-10, 13-15 and 19-20 are novel, nonobvious and distinguishable from the cited reference.

Accordingly, Applicants respectfully request that the rejections of Claims 1-2, 4, 6-10, 13-15 and 19-20 under 35 U.S.C. §102 be withdrawn.

In the Office Action, Claims 3, 11 and 16-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone*. Applicants respectfully submit that *Stone* is deficient with respect to the present claims.

For example, *Stone* fails to disclose or suggest each and every limitation of the present claims. As discussed above, *Stone* fails to disclose or suggest a flour-based food product that is a wafer and the Patent Office even admits same. See, Office Action, page 4, line 25.

Moreover, Applicants also respectfully submit that there exists no reason why the skilled artisan would modify *Stone* to arrive at the present claims because *Stone* explicitly teaches away from the presently claimed subject matter. For example, the specification explicitly states that “the present invention is not at all relating to anti-staling. The anti-staling process can be explained as follows: when starch granules are dispersed in water and fully gelatinized by cooking, the crystalline structure and the starch polymers are solubilized. As this solution cools (*e.g.* after baking in bread), polymers will form partially crystalline structure (retrogradation=recrystallisation). Amylases are often used to prevent staling (retrogradation) in high moisture systems, such as bread. In a baked wafer, the water mobility is not sufficient to

cause retrogradation. Thus, our invention is not related to anti-staling.” See, specification, page 5, lines 16-24 (emphasis added).

In contrast, *Stone* teaches the inhibition, or prevention, of the staling of bread. See, *Stone*, col. 1, lines 1-3. In fact, *Stone* repeatedly states that the invention is related to “the inhibition, or prevention, of the staling of bread,” or the “retard[ation] of the rate of staling of bread,” and even states that “[w]hen used in the proper proportion, th[e] enzyme acts upon the starch of the crumb at the high temperatures of baking after the starch is gelatinized and partly degrades it to a form which, if current theories are assumed correct, no longer retrogrades and stales.” See, *Stone*, col. 1, lines 1-3 and 35-39; col. 2, lines 13-19. Therefore, it is clear that *Stone* explicitly teaches away from the presently claimed subject matter by teaching anti-staling. For at least the reasons discussed above, Applicants respectfully submit that Claims 1-2, 4, 6-10, 13-15 and 19-20 are novel, nonobvious and distinguishable from the cited reference.

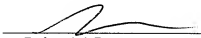
In the Office Action, Claims 5 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of U.S. Patent No. 6,558,715 to Rey et al. (“*Rey*”). Applicants respectfully submit that the patentability of independent Claims 1 and 9 as previously discussed renders moot the obviousness rejection of Claims 5 and 12 that depend from Claims 1 and 9, respectively. In this regard, the cited art fails to teach or suggest the elements of Claims 5 and 12 in combination with the novel elements of Claims 1 and 9.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same. In the event there remains any impediment to allowance of the claims that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

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